



## SOLAR Relay - HWS USE (3.6kW Element)

### Before Going to Site:

Download the CATCH Power Configuration App to your phone. The App can be downloaded from Google Play Store or the Apple iStore.

Update Latest Firmware – Click drop down menu, click get firmware, download CATCH RELAY INV CTRL, go back to drop down menu, click firmware update & follow the on screen instructions.

### In order to configure the solar relay to use the Export Control mode for HWS Heating follow these steps.

Example used is for a 3.6kW element.

- 1) Setup **Export Control** to be system override 1.
- 2) Configure the Export Control parameters as described on page 2.
- 3) Setup **Top Up** mode to be system override 2.
- 4) Configure the Top Up mode parameters as described on pages 3 & 4.

**Minimum On Time:** Specifies the minimum time the load must stay on once it has been turned on.

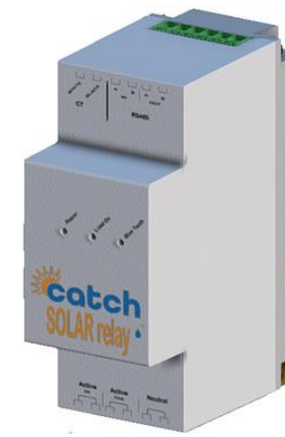
**Above Threshold:** The number of watts to be exporting from the measuring point. The Solar Relay will turn the load on if exporting reaches this threshold.

**Above Time:** The number of minutes the Above Threshold needs to occur before the load turns on.

**Below Threshold:** The number of watts to be exporting from the measuring point. The Solar Relay will turn the load off if exporting goes below this threshold.

**Below Time:** The number of minutes the Below Threshold needs to occur before the load turns off

You must always ensure the difference between the Above and Below thresholds are greater than your load size. For example, if you are powering a 3.6kW load the Above Threshold must be 3.6kW bigger than the Below Threshold otherwise contactor oscillations will occur.





## SOLAR Relay- HWS USE

**Export settings required for a 3.6kW HWS.**

**Solar Relay will turn on** when solar export is above 3.6kW for 10mins. This ensures the customer is not heating the hot water up from any imported power.

**Solar Relay will turn off** when export is 0w for 10mins. This allows the Solar Relay to ride through small loads such as Toasters, Kettles, Microwaves, Coffee Machines that will have little effect on overall kWh consumption.

### Settings:

**Minimum on Time:** 0  
**Above Threshold:** 3600  
**Above Time:** 10  
**Below Threshold:** 0  
**Below Time:** 10



## Configuration



### Export Control

Minimum On Time (mins)

0

Above Threshold (Watts)

3600

Above Time (mins)

10

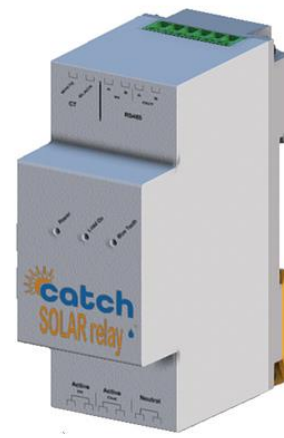
Below Threshold (Watts)

0

Below Time (mins)

10





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### TOP UP:

Top-up Control is typically configured in conjunction with another control mode. When configuring Top-up control you are telling the Solar Relay how many total minutes you want the load to run in a 24-hour period. If the run time of the load using other control mechanisms did not reach this duration, the Top-up mode will trigger and complete the running time.

In the example below you can see System Override 1 is setup to be Export Control and System Override 2 is our Top-up mode. Between the hours of 6:00am and 3:00pm the Solar relay will run in export control. The number of minutes the load runs during this time will change from day to day based on the amount of exporting solar.

At 3:01pm the Solar Relay will start operating in Top-up mode. The number of minutes between the start and stop times on the Top-up override represents the total number of minutes we want the load to run for. In our example there are 180 minutes between 3:01pm and 6:00pm. This tells the Solar Relay that we need a total of 180 running minutes for the entire day or 24-hour period.

If we had a nice sunny day, with good solar production, with the total number of run time minutes during the Export Control mode over 180 minutes or better, when we get to 3:01pm the Solar Relay will ***not*** turn the load on as we have reached the desired run time for the period.

If the day produced poor weather and poor solar production, and the run time minutes during Export Control mode was only 60 minutes, when we get to 3:01pm the Solar Relay will turn the load on and run it for 120 minutes allowing the hot water thermostat to reach cut off using any exporting power that is available whilst supplying the remainder from the grid to ensure the customer has Hot Water under poor solar production conditions or high household loads.

See following page for visual on app configuration.....



## SOLAR Relay - HWS USE

Top up control settings HWS.

### System Override 1: Export Control

Override Active: Yes  
Override Type: Export Control  
Start Time: 6:00 am  
Stop Time: 3:00 pm

Between the hours of 6:00am and 3:00pm the Solar relay will run in **Export Control**.

### System Override 2P: Top Up Mode Settings:

Override Active: Yes  
Override Type: Top Up  
Start Time: 3:01 pm  
Stop Time: 6:00 pm

System Override 2: At 3:01pm the Solar Relay will start operating in **Top-up mode**. If desired run time has not been reached within the 24-hour period in system override 1 - Export Control, the Solar Relay will ensure the run time is **topped up** to desired run time total minutes set – In this example it is 180minutes between 3:01pm and 6pm



### System Override 1

Override Active  
Yes

Override Type  
Export Control

Start Time  
6:00 am

Stop Time  
3:00 pm

### System Override 2

Override Active  
Yes

Override Type  
Top Up

Start Time  
3:01 pm

Stop Time  
6:00 pm



## SOLAR Relay - HWS USE

Examples of live data and device state shown in CATCH Power Configurator App:

Please note data shown is from demonstration model for visual purposes only. Run time, duty, power and exported/imported Wh will differ when Solar Relay is installed with load connected. Once load connected complete live operating data will be shown.



Live Data



### Readings - Mains

Volts:	237.7	V
Amps:	0.0	A
pf:	1.00	
Freq:	49.98	Hz
Power:	0.00	kW
Exported:	0	Wh
Imported:	0	Wh

### Device State

Device Time:	11:08 am
Control Mode:	Export
Run Time:	0 mins
Duty:	0
RS485 Active:	0
Device Type:	10002
Serial Number:	617
Firmware:	24

